

10716654

III. CLAIM AMENDMENTS

1. (Currently Amended) A method to provide an automatic gain control (AGC) in a receiver structure, comprising ~~the following steps:~~

multiplying a received analogue signal with a predetermined gain setting to obtain an amplifier output signal,

sampling the amplifier output signal,

estimating the energy in the samples,

calculating the average energy,

~~characterised in that the method further comprises the steps of:~~

computing ~~the~~ percentage of clipped samples,

~~calculating the~~ setting a target energy value, based on the average energy and the percentage of clipped samples, and ~~the gain setting,~~

updating the gain setting based on the target energy value and the average energy, and

applying the updated ~~receiver~~ gain setting.

(Original)

2. A method, according to claim 1, to provide an automatic gain control (AGC) in a receiver structure, wherein a lower and upper limit are set for the target energy value and the target energy value is calculated as follows:

if clipping percentage is below the lower limit, the target energy value is increased,

KN
9/10/04

1076687

871-011565-US (PAR)/31020313 US

if clipping percentage is between lower and upper limit the target energy remains unchanged,

if clipping percentage is above the upper limit the target energy value is decreased.

3. (Currently Amended) An automatic gain control apparatus to control received RF power, comprising:

an adjustable gain amplifier ~~(1)~~—arranged for amplifying a received signal,

an A/D converter ~~(2)~~—arranged for generating samples of the amplified signal,

a clipping & energy estimation block—~~(3')~~, arranged for the calculation of the clipping percentage and the average energy of the sampled signal and

a gain calculation block—~~(4')~~, arranged for determining the target energy value based on the clipping percentage and the gain setting of said adjustable gain amplifier.

g/10/04
CN
4. The AGC apparatus of claim 3 incorporated in a receiver apparatus.

g/10/04
CN
5. An integrated circuit device or a set of integrated circuit devices, comprising an automatic gain control apparatus as in claim 3.